

February 28, 2002

Mr. Yutaka Saruta
Nachi Technology, Inc.
713 Pushville Road
Greenwood, Indiana 46143

Dear Mr. Saruta:

Re: Registered Operation Status,
081-14556-00018

The application from Nachi Technology, received on June 18, 2001, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following steel ring races production facility, located at 713 Pushville Road, Greenwood, Indiana, 46143 is classified as registered:

- (a) One (1) natural gas-fired heat treating furnace system with a heat input capacity of two (2) million Btu per hour.
- (b) Twenty-eight (28) natural gas-fired roof top units with a combined maximum heat input capacity of 10.01 million Btu per hour.
- (c) Four (4) electric air compressors.
- (d) Nine (9) enclosed wet grinding lines. Two coolants are used in the wet grinding process. In addition, the wet grinding process consumes 200 gallons of honing oil and 200 gallons of solvent per month.
- (e) Eight (8) assembly lines. The assembly lines use approximately 300 gallons per month of solvent.
- (f) Two (2) 50 horsepower mist collectors to control the oil mist from the assembly lines and they vent internally.
- (g) One (1) degreasing operation installed in 1995. The solvent consumption for the entire degreasing operation is approximately 500 gallons per month. (Approximately 200 gallons per month in grinding and approximately 300 gallons per month in assembly, as indicated in the above sections (d) and (e)).

The following conditions shall be applicable:

1. Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following:
 - (A) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (B) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.
2. Pursuant to 326 IAC 8-3-4 (Conveyorized Degreaser Operation), the owner or operator of a conveyorized degreaser shall:
 - (A) Minimize carryout emissions by:
 - (i) Racking parts for best drainage;
 - (ii) Maintaining the vertical conveyor speed at less than 3.3 meters per minute (eleven (11) feet per minute);
 - (B) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere;
 - (C) Repair solvent leaks immediately, or shut down the degreaser;
 - (D) Not use workplace fans near the degreaser opening;
 - (E) Not allow water in solvent exiting the water separator; and
 - (F) Provide a permanent, conspicuous label summarizing the operating requirements.
3. The Permittee shall maintain records in accordance with (A) through (C) below. Records maintained for (A) through (C) shall be taken monthly and shall be complete and sufficient to establish compliance with the Registration status.
 - (A) The amount of volatile organic compounds (VOC) content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
 - (B) The cleanup solvent usage for each month;
 - (C) The total VOC usage for each month;

Any change or modification which may increase the potential emissions to 25 tons per year or more of volatile organic compounds must be approved by the Office of Air Quality before any such change may occur.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original Signed by Paul Dubenetzky
Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

ERG/AR

cc: File - Johnson County
Johnson County Health Department
Air Compliance - Marc Goldman
Permit Tracking - Sara Cloe
Technical Support and Modeling - Michele Boner
Compliance Branch - Karen Nowak

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Registration

Source Background and Description

Source Name: Nachi Technology, Inc.
Source Location: 713 Pushville Road, Greenwood, Indiana 46143
County: Johnson
SIC Code: 3562
Operation Permit No.: 081-14556-00018
Permit Reviewer: ERG/AR

The Office of Air Quality (OAQ) has reviewed an application from Nachi Technology, Inc. relating to the operation of this steel ring races production facility.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) natural gas-fired heat treating furnace system with a heat input capacity of two (2) million Btu per hour.

Unpermitted Emission Units and Pollution Control Equipment

- (a) Twenty-eight (28) natural gas-fired roof top units with a combined maximum heat input capacity of 10.01 million Btu per hour.
- (b) Four (4) electric air compressors.
- (c) Nine (9) enclosed wet grinding lines. Two coolants are used in the wet grinding process. In addition, the wet grinding process consumes 200 gallons of honing oil and 200 gallons of solvent per month.
- (d) Eight (8) assembly lines. The assembly lines use approximately 300 gallons per month of solvent.
- (e) Two (2) 50 horsepower mist collectors to control the oil mist from the assembly lines and they vent internally.
- (f) One (1) degreasing operation installed in 1995. The solvent consumption for the entire degreasing operation is approximately 500 gallons per month. (Approximately 200 gallons per month in grinding and approximately 300 gallons per month in assembly, as indicated in the above sections (c) and (d).

New Emission Units and Pollution Control Equipment Receiving Prior Approval

There are no new emission units and pollution control equipment receiving prior approval at this source during this review process.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) Exemption, issued on August 12, 1991.

All conditions from previous approvals were incorporated into this permit.

Enforcement Issue

- (a) IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled *Unpermitted Emission Units and Pollution Control Equipment*.
- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
#1	Heat Treat	--	0.67	2500	220
1-28	Roof Top	--	--	500	90

Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on June 21, 2001, with additional information received on July 6, 2001 and January 8, 2002.

Emission Calculations

See Appendix A (pages 1 through 7) of this document for detailed emissions calculations.

Potential To Emit of Source Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	9.4
PM-10	9.4
SO ₂	0.03
VOC	21.7
CO	4.4
NO _x	5.3

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of criteria pollutants is less than 100 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of criteria pollutants is less than 25 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-6.1.
- (c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of pollutants are greater than the levels listed in 326 IAC 2-1.1-3(d)(1), therefore, the source is subject to the provisions of 326 IAC 2-5.5.1.
- (d) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (e) Fugitive Emissions
 This type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2.

County Attainment Status

The source is located in Johnson County.

Pollutant	Status
PM-10	Attainment
SO ₂	Attainment
NO ₂	Attainment
Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Johnson County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Johnson County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This status is based on all the air approvals issued to the source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) The degreasing operation does not use any halogenated solvents, therefore 40 CFR Part 63, Subpart T does not apply.
- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Johnson County and the potential to emit any criteria pollutant is less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The facilities will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 6-3-2 (Process Operations)

The nine wet grinding lines are enclosed. There are no PM emissions from this unit, therefore 326 IAC 6-3-2 (Process Operations) is not applicable.

326 IAC 8-1-6 (New Facilities - General Reduction Requirement)

The facilities do not have potential VOC emissions equal to or greater than twenty five (25) tons per year and the degreasing operation is subject to 326 IAC 8-3-2 and 8-3-5, therefore this source is not subject to the provisions of 326 IAC 8-1-6.

326 IAC 8-3-1(Organic Solvent Degreasing Operations)

The degreasing operations were built after January 1, 1980, therefore 326 IAC 8-3-1 Section 4 applies. Section 7 does not apply to this equipment because the air to solvent interface is less than two (2) square meters.

326 IAC 8-3-4 (Conveyorized Degreaser Operation)

Pursuant to 326 IAC 8-3-4 (Conveyorized Degreaser Operation), the owner or operator of a conveyorized degreaser shall:

- (a) Minimize carryout emissions by:
 - (1) Racking parts for best drainage;
 - (2) Maintaining the vertical conveyor speed at less than 3.3 meters per minute (eleven (11) feet per minute);
- (b) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere;
- (c) Repair solvent leaks immediately, or shut down the degreaser;
- (d) Not use workplace fans near the degreaser opening;
- (e) Not allow water in solvent exiting the water separator; and
- (f) Provide a permanent, conspicuous label summarizing the operating requirements.

Conclusion

The operation of this steel ring races production facility shall be subject to the conditions of the attached Registration 081-14556-00018.

Appendix A: Emissions Calculations

Natural Gas Combustion Only

MM BTU/HR <100

Heat Treating Furnace System

Company Name: Nachi Technology

Address City IN Zip: 713 Pushville Road, Greenwood, IN 46143

CP: 081-14556-00018

Pit ID: 081-00018

Reviewer: ERG/AR

Date: July 9, 2001

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

2.0

17.5

Pollutant

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.1	0.1	0.0	0.9	0.0	0.7

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 2 for HAPs emissions calculations.

**Appendix A: Emissions Calculations
Natural Gas Combustion Only**

MM BTU/HR <100

Heat Treating Furnace System

HAPs Emissions

Company Name: Nachi Technology

Address City IN Zip: 713 Pushville Road, Greenwood, IN 46143

CP: 081-14556-00018

Pit ID: 081-00018

Reviewer: ERG/AR

Date: July 9, 2001

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.840E-05	1.051E-05	6.570E-04	1.577E-02	2.978E-05

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	4.380E-06	9.636E-06	1.226E-05	3.329E-06	1.840E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations

Natural Gas Combustion Only

MM BTU/HR <100

Twenty-eight (28) natural gas-fired roof top units with a combined maximum heat input capacity of 2 MMBtu/hr

Company Name: Nachi Technology
Address City IN Zip: 713 Pushville Road, Greenwood, IN 46143
CP: 081-14556-00018
Plt ID: 081-00018
Reviewer: ERG/AR
Date: July 9, 2001

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

10.0

87.7

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	7.6	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.3	0.3	0.03	4.4	0.2	3.7

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

Appendix A: Emissions Calculations

Natural Gas Combustion Only

MM BTU/HR <100

Twenty-eight (28) natural gas-fired roof top units with a combined maximum heat input capacity of 2 MMBtu/hr

HAPs Emissions

Company Name: Nachi Technology
Address City IN Zip: 713 Pushville Road, Greenwood, IN 46143
CP: 081-14556-00018
Pit ID: 081-00018
Reviewer: ERG/AR
Date: July 9, 2001

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	1.840E-04	1.051E-05	6.570E-04	1.577E-02	2.978E-05

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	4.380E-06	9.636E-06	1.226E-05	3.329E-06	1.840E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emission Calculations

Company Name: Nachi Technology
Address City IN Zip: 713 Pushville Road, Greenwood, IN 46143
CP: 081-14556-00018
Pit ID: 081-00018
Reviewer: ERG/AR
Date: February 7, 2002

Solvent

Usage =	500 gallons/month
Density =	6.67 pounds/gallon
VOC Content =	100%
1 year =	12 months
1 ton =	2000 pounds

VOC Emissions =	20.01 tons/year
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Methodology:

$$\text{VOC Emissions} = \frac{(\text{Usage}) * (\text{VOC Content}) * (\text{Density}) * (12 \text{ months})}{2000 \text{ pounds}}$$

Honing Oil

Usage =	200 gallons/month
Density =	0.9 grams/milliliter
VOC Content =	0%
1 year =	12 months
1 ton =	2000 pounds
1 gallon =	3.785 liters
1 liter =	1000 milliliters
1 pound =	453.593 grams

PM Emissions =	9.01 tons/year
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Methodology:

$$\text{PM Emissions} = \frac{(\text{Usage}) * (\text{Density}) * (12 \text{ months}) * (1000 \text{ milliliters}) * (3.785 \text{ liters})}{(453.593 \text{ grams}) * (2000 \text{ pounds})}$$

Appendix A: Emission Calculations

Company Name: Nachi Technology
Address City IN Zip: 713 Pushville Road, Greenwood, IN 46143
CP: 081-14556-00018
Pit ID: 081-00018
Reviewer: ERG/AR
Date: February 7, 2002

Coolant 1

Usage =	220 gallons/month
Density =	1.052 grams/milliliter
VOC Content =	8.3%
1 year =	12 months
1 ton =	2000 pounds
1 gallon =	3.785 liters
1 liter =	1000 milliliters
1 pound =	453.593 grams

VOC Emissions =	0.96 tons/year
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Methodology:

$$\text{VOC Emissions} = \frac{(\text{Usage}) * (\text{Density}) * (\text{VOC Content}) * (12 \text{ months}) * (1000 \text{ milliliters}) * (3.785 \text{ liters})}{(453.593 \text{ grams}) * (2000 \text{ pounds})}$$

Coolant 2

Usage =	55 gallons/month
Density =	1.048 grams/milliliter
VOC Content =	20.08%
1 year =	12 months
1 ton =	2000 pounds
1 gallon =	3.785 liters
1 liter =	1000 milliliters
1 pound =	453.593 grams

VOC Emissions =	0.58 tons/year
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Methodology:

$$\text{VOC Emissions} = \frac{(\text{Usage}) * (\text{Density}) * (\text{VOC Content}) * (12 \text{ months}) * (1000 \text{ milliliters}) * (3.785 \text{ liters})}{(453.593 \text{ grams}) * (2000 \text{ pounds})}$$

Appendix A: Summary

Company Name: Nachi Technology
Address City IN Zip: 713 Pushville Road, Greenwood, IN 46143
CP: 081-14556-00018
Pit ID: 081-00018
Reviewer: ERG/AR
Date: February 7, 2002

	PM	PM-10	SO ₂	NO _x	VOC	CO
Furnace	0.1	0.1	-----	0.9	-----	0.7
Roof Top	0.3	0.3	0.03	4.4	0.2	3.7
Solvent	-----	-----	-----	-----	20	-----
Honing Oil	9	9	-----	-----	-----	-----
Coolant 1	-----	-----	-----	-----	0.96	-----
Coolant 2	-----	-----	-----	-----	0.58	-----
Total	9.4	9.4	0.03	5.3	21.7	4.4